Questions for EPA on NPDES Permit – Chukchi Sea

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1. Relevant permit section: A.13.e

When asked about surface discharge (e.g., above the surface of the water), EPA informed COP that their discharges must fit within the range used in the OOC model that was presented by EPA in the ODCE. This range included depths 0.3 meters to +30m below the surface of the water and included no above surface discharges. Applying this same criteria (i.e., using the ODCE to provide information in addition to the NPDES permit), COP referred to the OCDE model inputs to attempt to determine an adequate temperature increase to model for the non-contact cooling water thermal plume. However, in table 3-4 a temperature range of 20-32 degrees C is used for deck drainage. This number does not seem relevant to the Chukchi Sea. As such, a delta temperature of 8 degrees C was used as an estimate of temperature increase above ambient intake water. Could the EPA please explain their use of such a high temperature for the deck drainage in the ODCE for the Chukchi Sea and whether the temperature used in the COP model is adequate?

2. Relevant permit section: A.13.f

Existing relevant data may be accepted as a replacement for Phase I baseline data if collected within the previous 5 years at or in the vicinity of the drill site location. The chemical data collected under the CSESP is nearly 5 years old (As of August 2013), but is still relevant background data. Would the EPA consider data that are 5-6 years old for replacement of Phase I sampling? Additionally, if the data demonstrate that there is no significant difference between data collected in 2008 and data collected in 2013, would this be sufficient justification for Phase I baseline data?

What information would be adequate to demonstrate that conducting an extensive monitoring program for every well is unnecessary? We feel that the data collected on benthos and sediments over the past 5 years, both from the COMIDA CAB project in 2009 & 2010 and the CSESP program in 2008 could demonstrate that such a robust monitoring program around every well drilled within lease blocks located in the same geographic area, may be unnecessary. These programs are very expensive to conduct, so guidance from the EPA on this particular issue would be most helpful.

3. Relevant permit section: A. 13. F

Following on to the comment/question above, is there a definitive definition for what is meant by “in the vicinity of the drill site location”? (e.g., COMIDA-CAB data provide helpful regional baseline data for chemistry and benthos disciplines, but the sampling stations are not necessarily in the immediate vicinity of the drill site locations). That does not mean that these data do not augment the already existing baseline information.

4. Relevant permit section: A.13.f.1

Could the EPA please provide additional information/detail on what is meant by "sensitive biological area or habitat"? (i.e., beyond the definition provided at the end of the NPDES permit). It seems that this could be invoked for reasons ranging from the presence of ice (e.g., walrus or seal "habitat"), the nearby location of Hanna Shoal, the "walrus area" in the Burger lease block, or as a result of species present that are listed under the ESA. Is this a correct interpretation?

5. Relevant permit section: A.13.f.3

Would the EPA be receptive to the collection of receiving water chemistry for Phase I immediately prior to drilling (i.e., during Phase II) and/or at reference stations adequately determined in the far-field areas as a replacement to collection during a Phase I phase? Contemporaneous water sampling would provide more realistic data for physical, biological, and chemical parameters than water sampling months or years prior to the drilling activities because, unlike sediment and/or biota, discrete water samples serve only as "snapshots" in time and do not represent time-integrated concentrations.

6. Relevant permit section: A.13.f.3

EPA method 602 (plus xylenes) and 624 include chlorinated aromatics in the list of analytes. Similarly, Table 4 requires total residual chlorine measurements be conducted. If no chlorine is used for treatment of any effluents, can we omit the chlorinated analytes from the list?

7. Relevant permit section: A.13.f.3

If barite (dry stock) is analyzed beforehand and certain metals (i.e., Table A) are shown in a handful of duplicates/replicate samples to have concentrations at or below Chukchi Sea sediment concentrations, then is this enough justification for removal of the metal from the monitoring list? (i.e., "The permittee may propose an alternative list based on site-specific data").

Similarly, there is a disconnect between the physical-chemical characteristics of the metals and the requirements for monitoring: in some cases, particulate metals make more scientific sense to monitor than dissolved metals. There are issues with background contamination for the dissolved phase and extremely low water solubility.

8. Relevant permit section: A.13.g.1

The initial toxicity screening frequency is 4 times per well. Can all 4 samples be taken at the same time? (i.e., there may be some limitations depending on the particular discharge stream).

We would appreciate clarification on the determination of the "potential toxicity" threshold trigger for WET testing. We assume this is determined through discussions with our toxicology team who will determine which test is the most appropriate for conducting the initial toxicity screen. Thus, the "potential toxicity" would be defined by the type/manner of test chosen to run the initial toxicity screens.

9. Relevant permit section: A. 13.g.1.ii,iii

We wish to use this opportunity to reiterate our concerns with meeting the requirements for the 36-72 hour holding time for the WET testing. There are significant logistical constraints associated with meeting this time window. There are large volume requirements for WET testing (e.g., 60L of water, plus renewal water) that also add additional challenges to the shipment/movement of effluent samples in a timely manner. In effect, compliance may require assuming that all initial toxicity screens will not "pass", and thus simultaneously ship and commence WET testing in conjunction with the initial toxicity screen.

10. Relevant permit section: A. 13.g.2

Are there any EPA-specific requirements for "potential marine mammal deflection due to non-contact cooling water"? Would this requirement be satisfied with the inclusion of PSOs on board the drill rig? (these trained personnel are already included in our study plan). It will be impossible to attribute any 'deflection' or behavioral change by a marine mammal due to non-contact cooling water discharge.

11. Relevant permit section: A.13.j.3

Are there any EPA-specific requirements to address the requirement to "conduct a metals bioaccumulation/bioavailability study in the drilling site area…". Would this requirement be satisfied by comparing lipid-normalized tissue concentrations to organic carbon-normalized sediment concentrations? (i.e., the BSAF approach).

12. Relevant permit section: A.13.j.4

For targeting the "maximum discharge period" during the plume monitoring and observations during drilling 3-4 periods would appear to be relevant: 1) top hole drilling at the seafloor, 2) setting of casings, 3) penetration of the hydrocarbon zone, 4) bulk mud discharge (if applicable). Are these periods consistent with EPA thinking for a targeted approach? What about not including the top hole portion as a period of "maximum discharge"?

13. Relevant to entire NPDES permit

Discussion with EPA regarding permit requirements for a relief rig, possibly staged nearby.

14. Relevant to permit section II.A.6

What is meant by "foam"? "Unless specifically addressed in this general permit, the permittee is prohibited from discharging floating solids, debris, sludge, deposits, foam, scum, or other residues of any kind". Does this apply to ALL discharges (in contrast with the no "foam" discharge requirement specific to 003 and 004?). Does this refer to creating foam or discharging foam? We would like to make sure our interpretation of this component of the regulations is correct.

15. Relevant to Cooling Water Intake Requirements (Attachment to NPDES permit)

We would like to confirm whether cooling water intake includes pre-load water? (i.e., does the <0.5feet/second requirement for intake velocity apply to the intake of pre-load water?)